

URC-200 (V2) LOS Transceiver

The Standard for Multi-Band, Multi-Mode Radios



Highly versatile and adaptable with
over 100 accessories available

Multi-band, multi-mode offers flexibility in
one small lightweight enclosure

Available in manpack, mobile, rack mount,
airframe or shipboard pre-configured systems

New frequency agile co-site filter option
for UHF or VHF

LOS Communications

LOS refers to any "Line-of-Sight" (LOS) radio antenna communications system and covers the entire non-commercial, service and aviation bands of the AM/FM, VHF/UHF spectrum, from 30 MHz to 420 Mz.

The URC-200 (V2) LOS Transceiver makes radio communications easier and more effective – without compromising privacy. This family of field-proven radios is backed by over two decades of production experience.

The URC-200 LOS Transceivers

General Dynamics designed its URC-200 product line to provide highly dependable service and to withstand the most demanding, harsh treatment and situations in the field. These multi-band, multi-mode radios offer rugged flexibility to operate in the UHF and VHF spectrum and the AM and FM bands. More than 11,000 transceivers have been delivered to all major military commands within the United States and government agencies in over 40 foreign countries.

General Dynamics proudly introduces the newest radio in the URC-200 family, the URC-200 (V2). This upgraded radio offers full compatibility with all currently fielded URC-200 accessories and includes the following new benefits:

- Brighter higher-contrast display improves readability in low light conditions.
- The receiver's AM performance provides clearer and improved voice reception.
- Frequency stability is enhanced to provide ± 1 PPM accuracy.
- 8.33kHz option (ECS-8) provides improved adjacent channel rejection.

URC-200 (V2) LOS Transceiver

Benefits/Features

Highly Versatile

- VHF, UHF, AM and FM capability provides interoperability with a variety of RF systems
- Adaptable to many applications, including manpack, rackmount, vehicular and intercom

Greater Coverage

- Covers from 30 to 420 frequency range with optional frequency enhancements

Remote Control

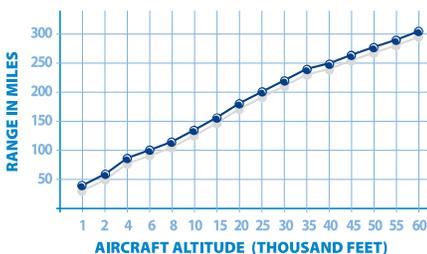
- The RS-232 interface allows for remote control access for both single and multiple remote operations

Frequency Agile Co-site Filter

- Reduces interference for ATC communications
- Tuning range 200-400 MHz (UHF), 95-190 MHz (VHF)

Easy to Use

- All frequencies are easy to set and access via the front-panel control presets



Optimal Line-of-Sight (LOS) transmission distances relative to aircraft altitude on a clear night with low humidity, over flat terrain.

1. URC-200 (V2) Antenna is fixed at a height of 6 feet.
2. Flight is over level terrain and ground station at sea level.
3. Graph depicts optimal distance that may not be attainable due to terrain and ground station variables.
4. All frequencies are above 100 MHz. Lower frequencies and other phenomena may reduce the effective range.

Technical Specifications

General

- Frequency range:
 - VHF: 115 MHz to 149.9950 MHz (AM)
 - VHF: 115 MHz to 173.9950 MHz (FM)
 - UHF: 225 MHz to 399.9950 MHz
- Tuning increments:
 - 25 kHz, 12.5 kHz, 5 kHz and 8.33 kHz (opt.)
- Frequency stability:
 - ± 1 PPM
- Channel Spacing
 - 25 kHz, 8.33 kHz (optional)
- Operating modes:
 - AM/FM Plain text voice
 - AM/FM Cipher text data with external COMSEC
- Remote:
 - 3-wire RS-232; all control functions plus balanced audio up to a distance of 300 feet
- Remote Maintenance Monitoring Status (RMMS):
 - Transmit power, overtemp, power supply status, synchlock, calibration status, receive signal strength, squelch status, scan detect, AGC, Legacy/Aviation modes, IF bandwidth, and radio configuration (front panel) status
- Preset channels: 10 transmit; 10 receive
- Pre-emphasis/De-emphasis:
 - (FM plain text) pre/de-emphasis approximately 6 dB per octave from 300 to 3000 Hz, 132 to 173.9950 MHz

Receiver Characteristics

- Minimum Sensitivity:
 - AM PT: -103.5 dBm for 10dB SINAD with 30% modulation at 1 kHz
 - AM CT: -105 dBm for 10^{-3} BER, 70% AM at 16 kb/sec.
 - FM PT: -114 dBm for 10dB SINAD with ± 6.5 kHz deviation at 1 kHz
 - FM CT: -107 dBm for 10^{-3} BER with ± 5.6 kHz deviation at 16 kb/sec.
- Image response: ≥ 80 dB typical
- Spurious response: ≥ 80 dB typical
- Half IF response: ≥ 70 dB typical
- Audio response:
 - PT: 300 Hz to 3000 Hz
 - CT: 30 Hz to 10.2 kHz
- Squelch range: Operator adjustable from below sensitivity to above -80 dBm
- Adjacent channel rejection:
 - 25kHz: 35dB typical
 - 8.33kHz: 45dB typical (ECS-8 option only)

Transmitter Characteristics

- Output power:
 - FM high power = 10 W ± 2 dB
 - FM medium power = 5 W ± 2 dB
 - FM low power = 0.1 W ± 5 dB
 - AM high power = 10 W Avg* ± 2 dB
 - AM low power = 5 W Avg* ± 2 dB *at 80% AM
- Cipher text modulation:
 - Data rates to 16 kb/sec.
- Spurious output: ≥ 70 dB below the carrier typical
- Harmonic output: ≥ 53 dB below the carrier typical
- Adjacent Channel Power:
 - 25kHz: 50dB typical
 - 8.33kHz: 40dB typical (ECS-8 option only)

Physical Characteristics

- Weight: 9 lbs. (less batteries)
- Dimensions:
 - 9.6"L x 10.4"W x 3.1"H (without battery and handles)
 - 15.3"L x 10.8"W x 3.1"H (with battery and handles)
- Environmental:
 - Environmentally tested for humidity, vibration, shock/drop, rain/drip-proof
- Temperature:
 - -20°C to +55°C (operating)
 - -50°C to +70°C (non operating)

Power Supply

- Battery:
 - BB-590, BB-390, BB-2590 (rechargeable)
 - BA-5590, BA-5390 (non-rechargeable)
- Battery case dimensions: 5.2"L x 10.3"W x 2.8"H
- Current drain (+28 V):
 - High power <3.5 amps
 - Medium power 1.7 amps
 - Low power 800 mA
 - Receive 360 mA

URC-200(V2) Options

- 30 to 90 MHz frequency enhancement
- 400-420 MHz frequency enhancement
- 8.33 kHz channel spacing and tuning increments

URC-200(V2) Accessories

- 19" rackmount for base station applications
- Shock trays for most vehicular, marine and airborne applications
- 50 W AM, 50 W FM external UPA-55 Power Amp.
- Multiple antenna configurations
- AC/DC, DC/DC and battery power supplies
- Remote control head

GENERAL DYNAMICS

Mission Systems